

REMARKS

Currently, claims 23-36 remain pending in the present application, including independent claim 23. As shown above, independent claim 23 has been amended to clarify that the multifunctional monomer cross-links to the quaternary amine acrylate polymer and is imbibed into the surface of the medical device.

In the Office Action, claim 35 was objected to because of the misspelling of the word "dimethylaminoethyl." As shown above, claim 35 has been amended to correct the typographical error.

Also in the Office Action, claim 26 was rejected under 35 U.S.C. §112, second paragraph. The Office Action states that the structure recited is a monomer, while the claim language is directed to a polymer. Applicants respectfully disagree with this rejection. As originally filed, claim 26 required that the polymer comprise the shown structure. Due to the open-ended nature of the transitional word "comprising" the polymer is not limited to the shown structure. In any event, claim 26 has been amended to clarify that the polymer is formed from a monomer having the shown structure.

The Office Action also rejected independent claim 23 under 35 U.S.C. §103 in view of U.S. Pat. No. 6, 287,285 to Michal, et al. Michal, et al. describes two different embodiments of methods of coating a medical device with a hydrophilic agent that is lubricious against biological tissue. The hydrophilic coating is bound to the device surface due to the grafting component used alone or in combination with the binding component. Col. 5, ll. 48-53.

The first embodiment disclosed by Michal, et al. describes forming a base coat from a grafting component and a binding component, then bonding a top coat to the base coat.

Col. 2, ll. 12-39. To form the base coat, the grafting component is blended with the binding component. Col. 6, ll. 65-66. The grafting component grafts to the device surface. The grafting component is then polymerized on the surface of the device in the presence of the binding component to form the base coat. The binding component either covalently bonds or is attracted by physical forces (i.e. hydrogen forces) to the grafting component. Col. 2, lines 40-53.

A top coat is then applied, which covalently bonds to the binding component. The top coat includes the desired therapeutic, diagnostic or hydrophilic agent. Col. 2, ll. 28-29. Thus, in this embodiment, providing a lubricious coating that adheres to the device surface requires a hydrophilic agent bonded to the binding component, which in turn is bonded to (or attracted to) the grafting component.

In this embodiment, Michal, et al. discloses that the grafting component can be acrylate compounds which can bind to the binding component when polymerized. Michal, et al. discloses that the functional groups of the binding component that binds to the top coat are polyaziridine or polycarbodiimide oligomers, isocyanate containing oligomers, or aldehyde or polyaldehyde compounds. Col. 10, line 67 – Col. 11, line 7. Also, Michal, et al. discloses that each specific functional group of the binding component is capable of binding to a specific hydrophilic component in the top coat. Col. 6, ll. 65 – Col. 7, ll. 3. For example, polyaziridine or polycarbodiimide oligomer binding components are used with top coats having carboxyl groups (Col. 7, lines 36-56); isocyanate containing oligomer binding components are used with top coats having amine groups (Col. 7, line 57 – Col. 8, lines 13); and aldehyde or polyaldehyde compound binder components are used with top coats having amine groups.

In this embodiment, only the top coat is disclosed by Michal, et al. as potentially having a quarternary amine group. Nowhere does Michal, et al. disclose that the binding component can comprise a quarternary amine acrylate polymer. As such, Michal, et al. fails to teach or suggest cross-linking the quarternary amine group (of the top coat) to the acrylate compound (the grafting component). Thus, this embodiment is significantly different than the coating required in independent claim 23. Applicants note that independent claim 23 has been amended to clarify that the quarternary amine acrylate polymer is cross-linked to the multi-functional monomer.

In another embodiment, Michal, et al. disclose that the binding component can be omitted. Col. 11, lines 17-18. Michal, et al. disclose that this coating comprises a hydrophilic polymer, an ionic compound with at least one inorganic ion, and a grafting component. Col. 11, lines 23-27. The grafting component grafts to the device and crosslinks with the hydrophilic polymer. The hydrophilic polymer of this embodiment is disclosed as being poly(ethylene oxide), poly(vinylpyrrolidone), poly(vinyl alcohol), poly(acrylamide), alginic acid, hyaluronic acid, poly(acrylic acid), and guar gum. Col. 11, lines 38-41. However, Michal, et al. fails to disclose or even suggest that the hydrophilic polymer of this embodiment can be a quarternary acrylate polymer. Thus, Michal, et al. again fails to disclose that a quarternary amine acrylate polymer can be cross-linked to the acrylate compound (the grafting component).

Michal, et al. does disclose that a poly(acrylamide) can be bonded to the grafting component. However, as one of ordinary skill in the art would recognize, a poly(acrylamide) is not a quarternary amine acrylate polymer. Thus, Applicants respectfully

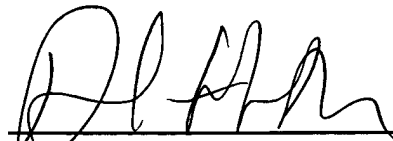
submit that this embodiment of Michal, et al. simply fails to disclose or suggest a quaternary amine acrylate compound crosslinked to an acrylate or ammonium compound.

According to the present Application, through the use of this particular combination, a lubricious coating can be formed on the surface of the device and be securely fixed thereto. Pg. 5, lines 12-13. Applicants respectfully submit that one of ordinary skill in the art would not be motivated to modify either of the embodiments of Michal, et al. in order to come up with the specific combination required by independent claim 23. As such, Applicants respectfully submit that claim 23 is patentable over Michal, et al., either alone or in any combination.

Applicants respectfully submit that the presently pending application is in complete condition for allowance. However, Examiner Zacharia is invited and encouraged to contact the undersigned should any further questions or concerns arise after consideration of this response.

Respectfully submitted,

DORITY & MANNING, P.A.

A handwritten signature in black ink, appearing to read 'Alan R. Marshall', written over a horizontal line.

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Date

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